

WHAT IS CLAIMED IS:

*Sub A14*

1. Alkali-free aluminoborosilicate glass having a coefficient of thermal expansion  $\alpha_{20/300}$  of between  $2.8 \times 10^{-5}/K$  and  $3.8 \times 10^{-6}/K$ , which has the following composition (in % by weight, based on oxide):

SiO <sub>2</sub>	> 58 - 65
B <sub>2</sub> O <sub>3</sub>	> 6 - 10.5
Al <sub>2</sub> O <sub>3</sub>	> 14 - 25
MgO	0 - < 3
CaO	0 - 9
SrO	0.1 - 1.5
BaO	> 5 - 8.5
with SrO + BaO	$\leq 8.6$
with MgO + CaO + SrO + BaO	8 - 18
ZnO	0 - < 2

2. Aluminoborosilicate glass according to Claim 1, characterized in that it comprises at least 18% by weight, preferably more than 18% by weight, of Al<sub>2</sub>O<sub>3</sub>.

3. Aluminoborosilicate glass according to Claim 1 or 2, characterized by the following composition (in % by weight, based on oxide):

SiO <sub>2</sub>	> 58 - 64.5
B <sub>2</sub> O <sub>3</sub>	> 6 - 10.5
Al <sub>2</sub> O <sub>3</sub>	> 18 - 24
MgO	0 - < 3
CaO	1 - < 8
SrO	0.1 - 1.5
BaO	> 5 - 8
with SrO + BaO	< 8.5
with MgO + CaO + SrO + BaO	8 - 18
ZnO	0 - < 2

4. Aluminoborosilicate glass according to at least one of Claims 1 to 3, characterized in that it comprises at least 20.5% by weight of  $\text{Al}_2\text{O}_3$ .

5. Alkali-free aluminoborosilicate glass having a coefficient of thermal expansion  $\alpha_{20/300}$  of between  $2.8 \times 10^{-6}/\text{K}$  and  $3.6 \times 10^{-6}/\text{K}$ , which has the following composition (in % by weight, based on oxide) :

$\text{SiO}_2$	> 58 - 64.5
$\text{B}_2\text{O}_3$	> 6 - 10.5
$\text{Al}_2\text{O}_3$	20.5 - 24
$\text{MgO}$	0 - < 3
$\text{CaO}$	2.5 - < 8
$\text{SrO}$	0.1 - 3.5
$\text{BaO}$	> 5 - 7.5
with $\text{SrO} + \text{BaO}$	$\leq 8.6$
with $\text{MgO} + \text{CaO} + \text{SrO} + \text{BaO}$	8 - 18
$\text{ZnO}$	0 - < 2

6. Aluminoborosilicate glass according to at least one of Claims 1 to 5, characterized in that it comprises at least 21.5% by weight of  $\text{Al}_2\text{O}_3$ .

7. Aluminoborosilicate glass according to at least one of Claims 1 to 6, characterized in that it comprises more than 8% by weight of  $\text{B}_2\text{O}_3$ .

8. Aluminoborosilicate glass according to at least one of Claims 1 to 7, characterized in that it comprises at least 0.1% by weight of  $\text{ZnO}$ .

9. Aluminoborosilicate glass according to at least one of Claims 1 to 8, characterized in that it additionally comprises:

$\text{ZrO}_2$	0 - 2
$\text{TiO}_2$	0 - 2
with $\text{ZrO}_2 + \text{TiO}_2$	0 - 2

$\text{As}_2\text{O}_3$	0 - 1.5
$\text{Sb}_2\text{O}_3$	0 - 1.5
$\text{SnO}_2$	0 - 1.5
$\text{CeO}_2$	0 - 1.5
$\text{Cl}^-$	0 - 1.5
$\text{F}^-$	0 - 1.5
$\text{SO}_4^{2-}$	0 - 1.5
with $\text{As}_2\text{O}_3 + \text{Sb}_2\text{O}_3 + \text{SnO}_2 + \text{CeO}_2$	$\leq 1.5$
$+ \text{Cl}^- + \text{F}^- + \text{SO}_4^{2-}$	

10. Aluminoborosilicate glass according to at least one of Claims 1 to 9, characterized in that it is free of arsenic oxide and antimony oxide, apart from unavoidable impurities, and that it can be produced in a float plant.

11. Aluminoborosilicate glass according to at least one of Claims 1 to 10, which has a coefficient of thermal expansion  $\alpha_{20/300}$  of  $2.8 \times 10^{-6}/\text{K} - 3.6 \times 10^{-6}/\text{K}$ , a glass transition temperature  $T_g$  of  $> 700^\circ\text{C}$  and a density  $\rho$  of  $< 2.600 \text{ g/cm}^3$ .

12. Use of the aluminoborosilicate glass according to at least one of Claims 1 to 11 as substrate glass in display technology.

13. Use of the aluminoborosilicate glass according to at least one of Claims 1 to 11 as substrate glass in thin-film photovoltaics.